

WRITTEN ACTION OF THE INTERNATIONAL  
SEARCH AUTHORITY (ATTACHMENT)

Int. file no.  
PCT/EP2005/000776

Independent claim 1:

1. This application does not meet the criterion named in Article 33(3) PCT because the subject matter of claim 1 is not based on inventiveness (Regulation 65.1, 65.2 PCT).

2. Document US 4 248 487 A (D1) (compare column 2, line 62 to column 3, line 12 and Figure 2) discloses a double-row antifriction bearing with

- a one-piece outer ring (15)
- a two-part inner ring (16), and
- rolling elements (17, 18) located between them,

the taper rollers (17) of the first row of rolling elements having a smaller diameter than the balls (18) of the second row of rolling elements, and the contact angle of the first row of rolling elements with taper rollers (17) being smaller than the contact angle of the second row of rolling elements with balls (18) (compare especially Figure 2).

3. A similar antifriction bearing is also known from US 2003 106 384 A (D2) as a taper roller bearing (compare paragraphs [0041] to [0046] and Figure 1).

4. The subject matter of claim 1 differs from these antifriction bearings known from D1 and D2 only in that the rolling elements consist of ceramic material.

5. But use of rolling elements of ceramic material, for example especially at high rpm and temperatures, is generally known in the field of antifriction bearings, especially for double-row angular ball bearings, with respect to for example higher hardness, temperature resistance, chemical resistance or low specific weight.

One example of a double-row angular ball bearing with rolling elements of ceramic is known for example from WO 99 02 873 A (D3) (compare page 2, lines 12 to 14).

One example of a double-row taper roller bearing with rolling elements of ceramic is known for example from US 5 852 947 A (D4) (compare column 3, line 15).

6. One skilled in the art within the framework of his normal engineering activity would consider ceramic in the choice of the material of the rolling elements.

Dependent claims 2 to 14

7. Dependent claims 2 to 14 do not seem to contain any additional features which in combination with the features of any claim to which they are referenced could lead to a subject matter based on inventiveness.

- The additional features of claim 2 are known from each of documents D1 to D4.
- The selection of the two contact angles in claims 3 and 4 is known from each of documents D2 and DE 43 06 289 (D5).
- An outer ring with flange molded on in one piece at the height of one of the rows of rolling elements (compare claims 5 and 6) is known for example from document D1 or D2 and from the generic US 2002 186 910 A (D6) and US 2002 181 816 A (D7).
- Lubrication openings in the contact region of the front surfaces of the split inner ring (compare claim 7) are known for example from D6.
- Lubrication holes in the outer ring (compare claim 8) are known for example from D7.
- A cage of PEEK guided on the split inner ring (compare claims 9 to 11) is known for example from FR 2 798 433 A (D8).
- The version of the bearing as an angular ball bearing (compare claims 12 and 13) is known from documents D3, D6 and D8.

- The use of a double-row bearing in a transmission (compare claim 14) is known for example from each of documents D1, D2, D4, D6 or D7. In particular reference can be made to the antifriction bearing in document D6 which is to be used in a helicopter transmission.

8. At present it cannot be recognized which part of the application could form the foundation for a new claim which would meet the requirements of Article 33(2) and Article 33(3) PCT.